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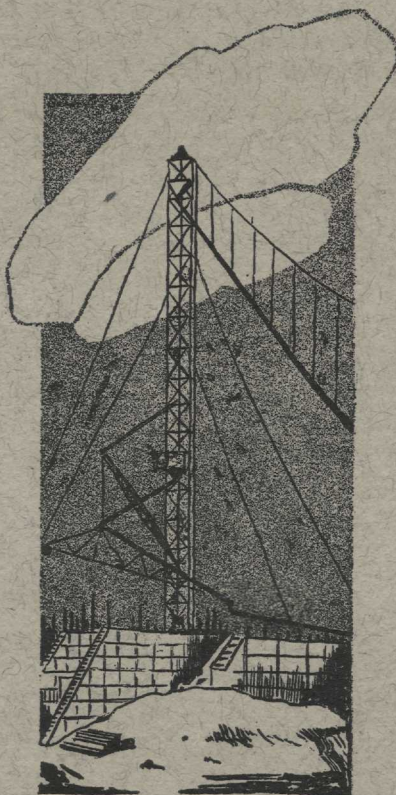
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**March 1930**

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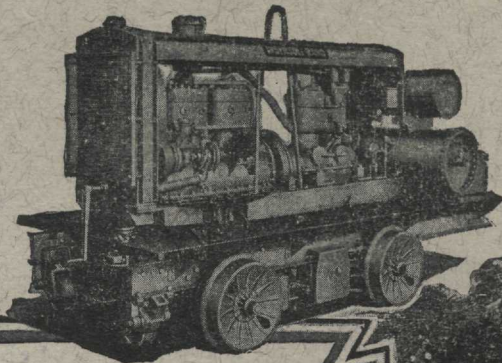
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V. 13, no. 5  
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Right: An Ingersoll-Rand portable compressor, which operates all of the tie tampers in the gang pictured below.



### **Compressed Air Now Tamps the Ties on the Majority of Railroads**

For many years, Ingersoll-Rand has manufactured a complete line of tie tampers, track tools, and the air compressors that operate them.

These labor-saving tools have been an important factor in the economy and safety campaigns of America's greatest railway systems.

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# **Ingersoll-Rand**



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**KOEHRING  
INSLEY  
T.L. SMITH  
PARSONS  
C.H. & E.  
KWIK-MIX**



#### KOEHRING

Pavers, Mixers; Power Shovels, Pull Shovels, Cranes, Draglines; Dumpers.

#### INSLEY

Excavators; Concrete Placing Equipment; Cars, Buckets, Derricks.

#### T. L. SMITH

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#### PARSONS

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#### C. H. & E.

Portable Saw Rigs, Pumps, Hoists, Material Elevators.

#### KWIK-MIX

Mixers — Concrete, Plaster and Mortar.

## Join for Greater Service To the Engineer-Builder

**T**HE Koehring Company, well known among student engineers for its leadership in the manufacture of concrete pavers and mixers and its activity in concrete research, has combined with the Insley Manufacturing Company, T. L. Smith Company, Parsons Company, C. H. & E. Manufacturing Company, and the Kwik-Mix' Concrete Mixer Company to form the National Equipment Corporation.

Each one of these companies has been a pioneer and a leader in its field—each one is a familiar name wherever construction work is in progress the world over. Their products of quality have exemplified the integrity of each organization and brought confidence over a long period of years.

Now they are united in National Equipment to give still greater service in manufacturing construction machinery of super-quality. In this greater organization cooperative engineering and research become a realization — N. E. C. is an operating unit with greater facilities to develop and perfect construction equipment. It is a pioneering step for increasing achievement.

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# EXPLOSIVES

## MAKE NAVIGATION SAFER

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Explosives remove the hidden rocks which menace navigation; the same tool of civilization blasts the huge stones, which, as breakwaters, protect harbors from angry seas. Docks, piers, and countless construction jobs that are indispensable to marine safety and efficiency, can not be undertaken without explosives.

Guarding the world's shipping is just one of the many ways—on land and sea and underground—in which explosives are helping to advance our civilization.

In these achievements, Hercules explosives have played, and will continue to play, an important part.



As an engineer, you probably will want to know more about explosives. Write for a copy of *Dynamite—The New Aladdin's Lamp*.

# HERCULES POWDER COMPANY

(INCORPORATED)

941 KING STREET,

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# THE OHIO STATE ENGINEER

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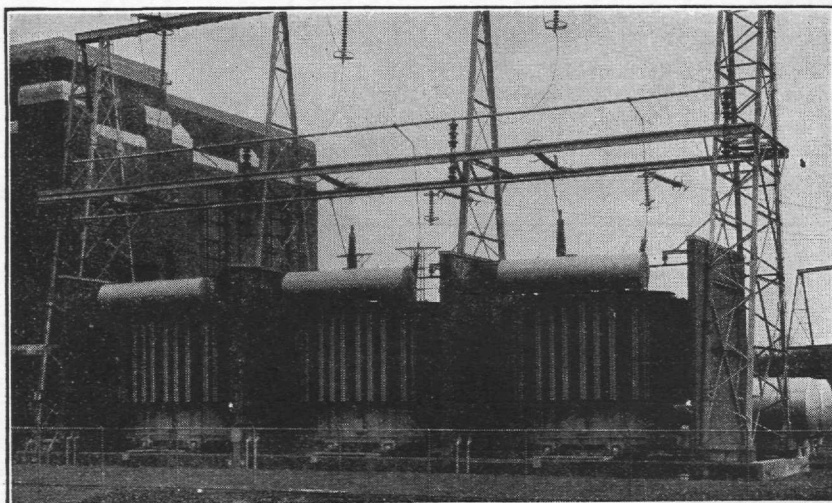
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## WHAT YOUNGER COLLEGE MEN ARE DOING WITH WESTINGHOUSE



Special cars were needed . . .  
*railway tracks had to be lowered, to handle the  
 transformers these men built*

AT CONOWINGO, Maryland, is the second largest hydro-electric development in the world. Power generated there at 220,000 volts will be fed into lower voltage transmission lines of the Public Service Electric and Gas Company at Roseland, near Newark, New Jersey.

The transformers that will perform this transfer of energy are physically the largest ever built, for their capacity is sufficient to serve the home lighting needs of a city of a million people. Four in number, each is larger than a house, weighs when empty as much as a large locomotive and holds three tank cars of

oil. Four specially built railway cars and fifty-two standard cars of various types were required to transport them from the factory to the job. At one point the railway tracks had to be lowered so the units would clear an overhead viaduct, so great was their size.

When spectacular jobs like this come up it is natural that they go to an institution like Westinghouse. Pioneers in electrical development, Westinghouse engineers often know the thrill of achieving the "impossible" in seeing their work through from design to erection.

# Westinghouse



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*Development of Commercial  
 Design*



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*Tap Changer Development*



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